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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/647,784	10/05/2000	Juha Rasanen	PM 273950	4022

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EXAMINER	
SCHEIBEL, ROBERT C	

ART UNIT	PAPER NUMBER
2666	8

DATE MAILED: 10/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

OR

dl.R.

Office Action Summary	Application No.	Applicant(s)	
	09/647,784	RASANEN, JUHA	
	Examiner	Art Unit	
	Robert C. Scheibel	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-30 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 October 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 110 and 111. These reference signs are mentioned on page 19 of the specification in lines 30 and 35, respectively. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "55" has been used to designate both the first switching unit in figure 13 and the modem units of figure 13. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Specification

4. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

5. The disclosure is objected to because of the following informalities:

- "MC/IWF" on line 11 of page 6 should be changed to "MSC/IWF";

- "IFW" on line 32 of page 17 should be changed to "IWF";
- "ATN" on line 14 of page 19 should be changed to "ATM"; and
- "MC/IWF" on line 17 of page 19 should be changed to "MSC/IWF".

Appropriate correction is required.

6. Claims 5, 6, 7, 8, 16, 17, 22, and 23 are objected to because of the following informalities: the wording of the phrases such as "establishing one radio link protocol o link access control protocol" should be modified. A protocol is not established; rather, a connection or link is established using the protocol. Appropriate correction is required.

7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required. Claim 15 recites the limitation "radio access control protocol" in line 9. There is insufficient antecedent basis for this limitation in the claim. It is anticipated that this phrase is supposed to be "link access control protocol" and the claim has been interpreted below based on this understanding.

Claim Rejections - 35 USC § 112

8. Claim **2** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Regarding claim 2, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims **1, 13,** and **19** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5,757,792 to Akoi, et al.

The limitations of these claims are taught in Figures 3 and 6 of Akoi where the two or more simultaneous calls are the voice signal as one call and the data signal as another call. Both of these calls are sharing the capacity of a common traffic channel (a TDMA timeslot as shown in figure 5) through the methods shown in these figures.

12. Claims **1, 6, 8, 13, 15, 17, 19, 21,** and **23** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,363,058 to Roobol, et al.

Specifically, the two or more simultaneous calls of claims 1, 13, and 19 are anticipated by the service access points 125a, 125b, and 125c of Figure 4 of Roobol. The common traffic channel is anticipated by the communications link 4 of Figure 1 of Roobol. The sharing of capacity is anticipated by the method of mapping logical channels to physical channels shown in Figure 3 of Roobol.

The limitation of claims 15 and 21 of separate sub-channels or each call is anticipated by the sub-channels formed by the LLC 30 and RLC 35 blocks of Figures 2 and 4 of Roobol. The user data for each call or service access point is transmitted in

the streams created by these layers as described in column 3, lines 32-35 "The RLC protocol 35 provides a stream of specifically classified data which is channel encoded and interleaved via a multiplexer 45 before being mapped onto a logical channel 40." In this case, the stream is in fact sub-channel.

The dedicated radio link protocol or link access control protocol of claims 6, 17, and 23 are also anticipated by the LLC 30 and RLC 35 blocks of Figures 2 and 4 of Roobol. The streams described in column 3, lines 32-35 are also logical channels.

The dedicated radio link protocol or link access control protocol of claim 8 is anticipated by the LLC 30 and RLC 35 blocks of Figures 2 and 4 of Roobol as stated in the preceding paragraph. The further limitation of transmitting packet data encapsulated in a protocol frame is anticipated by figure 5 and in the text from line 65 of column 4 to line 7 of column 5.

13. Claims **1, 2, 3, 13, 14, 19, 20,** and **24** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,081,536 to Gorsuch et al.

Specifically, the two or more simultaneous calls of claims 1, 13, and 19 are anticipated by the calls originating from elements 112-1, 112-2, 112-3, 112-x, and 110 of Figure 1. These calls share the capacity of the traffic channel formed by the link 160-1 or 160-2 of Figure 1.

Gorsuch anticipates the dynamic adjustment of the channel capacity claimed in claims 2, 14, and 20 throughout the patent. One example is in the abstract of Gorsuch: "Bandwidth is allocated dynamically within a session to specific CDMA subscriber unit based upon data rate determinations". Another example is found in column 2, lines 31-

34: "The instantaneous bandwidth needs of each on-line subscriber unit are met by dynamically allocating multiple subchannels of the RF carrier on an as needed basis for each session".

The steps and means of claims 3 and 24 are anticipated by parts of figure 5 as detailed below. The step and means of assigning the common traffic channel when the call(s) are first set up are anticipated by state 504 of figure 5. The step and means for increasing or reallocating capacity when a new call is added are anticipated by state 514 of figure 5. The step and means for decreasing capacity when a call is cleared is anticipated by state 522 of figure 5. The step and means for releasing the common traffic channel after the last call is cleared is anticipated by state 512 of figure 5.

14. Claims **1, 5, 7, 13, 15, 16, 18, 19, 21, 22** and **30** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,112,084 to Sicher, et al.

Specifically, the two or more simultaneous calls of claims 1, 13, and 19 are anticipated by the voice signal 61 and the data signal 67 of Figure 3. These are transmitted on a common traffic channel – the high speed bit pipe 21. The capacity of this bit pipe is shared as shown in Figure 3. Further, Sicher indicates that the calls do not necessarily need to be one data call and one voice call. See lines 14-16 of column 10 "The above describes the origination of a simultaneous voice and data call. Obviously, two simultaneous voice calls or two simultaneous data calls may also be placed by the method described above."

Item number 69 of Figure 3 in Sicher anticipates the one radio link protocol of claims 5, 16, and 22. The digital codec 65 and the data compressor 68 of Figure 3

create logical channels on this shared traffic channel. The data are transmitted on these logical channels by multiplexing them through the DSVD multiplexer 66. This is described in lines 45-47 of column 6 "The output of the data compressor and framer function is applied to the DSVD multiplexer 66. The output of the multiplexer is a multiplexed DSVD bit stream which is encapsulated at 69 into the circuit mode RLP frame stream as specified by, for example, IS-130."

The limitation of one radio link protocol of claim 7 is anticipated by the same material discussed above for claims 5, 16, and 22. The further limitation of transmitting packet data encapsulated in a protocol frame (claims 7, 18, and 30) is anticipated by Sicher in figure 3. The data source 67 may be packet data, and it is ultimately encapsulated in RLP protocol frames by element 69 as described in lines 45-47 of column 6: "The output of the multiplexer is a multiplexed DSVD bit stream which is encapsulated at 69 into the circuit mode RLP frame stream".

The limitation of separate subchannels per call or connection of claims 15 and 21 is anticipated by the second embodiment of Sicher. See lines 17-19 of column 6 "The voice and the data are two logically separate channels although they may be transmitted on the same frequency." These two logically separate channels are subchannels of the common radio channel.

15. Claims **1, 4, 5, 13, 15, 16, 19, 21, 22,** and **25** rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5,901,143 to Rotter, et al.

Specifically, the two or more calls of claims 1, 13, and 19 are anticipated by the logical connections LC1 and LC2 of Rotter. These connections share the capacity of

the "broadband link" discussed throughout Rotter. (As an example, see the first sentence of the abstract: "The invention concerns a method of operating a broadband link for the exchange of data (DAT) between a mobile terminal (MS) and a network-side mobile radio facility (MSC)").

The limitation of claims 4 and 25 regarding the type of the simultaneous calls is anticipated throughout Rotter. Figure 2 is a good example of this as logical channel LC1 is non-transparent and logical channel LC2 is transparent. This is described in more detail from column 6, line 60 through column 7, line 16.

The limitations of claims 5, 16, and 22 are anticipated as demonstrated below. The limitation of establishing one radio link protocol is anticipated by the preferred embodiment of Rotter in which the logical connections discussed above are transmitted using a modified radio link protocol (MRLP). For example, consider lines 11-13 of column 3: "The basic idea of the invention for the data transport is to introduce one or more additional packet types in a protocol which functionally corresponds to the MRLP protocol". The limitation of a logical channel for each connection and transmitting user data via the respective logical channel is anticipated by logical connections LC1 and LC2. Rotter indicates that the user data is transmitted on these connections in lines 62-65 of column 6: "The logic connection LC1 is formed by the exchange of type A useful data packets FRDAT1 and the logical connection LC2 is formed by the exchange of type B useful data packets FRDAT2".

The limitation of separate subchannels of claims 15 and 21 is anticipated by the subchannels RC1 through RCN of Rotter.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. Claims **11, 12, 28,** and **29** rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,081,536 to Gorsuch, et al in view of U.S. Patent 6,014,089 to Tracy, et al.

Gorsuch discloses the limitations of claims 1 and 19 as stated in the rejection above. Gorsuch does not disclose the limitations of claims 11 and 28 of using temporarily unused resources for traffic of another connection. Gorsuch also does not disclose the limitations of claims 12 and 29 of detecting and deleting filler, using the capacity for traffic from another connection and then returning the filler at the receiver.

Tracy teaches the limitations of claims 11, 12, 28, and 29. Specifically, the step of monitoring the traffic channel of claims 11 and 28 is taught in lines 62-66 of column 5 of Tracy: "The control channel packet assembler/disassembler 105 continuously monitors the data steams and can separate the control channel transmission packets necessary for system control or other system information from other channel transmission packets with other characteristics". The detecting that there is temporarily no traffic and using the temporarily unused resources of claims 11 and 28 is taught in lines 29-31 of column 6: "the present invention utilizes removal of the "dummy" packets that contain no information and replacing these packets with diverted transmission

packets". Identifying the "dummy" packets for removal constitutes detecting that there is no useful traffic for this link and replacing these packets is using the temporarily unused resources. Further, lines 29-43 of column 6 teach the limitations of claims 12 and 29. The "dummy" packets are the filler in this case and must be detected in order to replace them. This anticipates the step of detecting the filler. Tracy teaches replacing the "dummy" packets, which anticipates the steps of deleting and transmitting in place of the filler. Finally, teaches reinserting the "dummy" packets in lines 38-40 of column 6: "The diverted transmission packets are replaced with "dummy" transmission packets making the operation of this system transparent to the MSC 103".

Gorsuch and Tracy are analogous art because they are from the same field of endeavor of transmitting data in a mobile wireless system.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Gorsuch to make use of unused or filler capacity for the transmission of additional data on the radio channel. The motivation for doing so would have been to take advantage of the under utilized capacity in the radio channel. This is suggested by Tracy in lines 54-59 of column 6: "there are times when the control channel is not in use by the digital GSM, PACS, FDMA, CDMA or TDMA communications network. During this non-use time, the data collection device 101 is capable of transmitting data over the network system without interfering with other control channel transmissions".

Therefore, it would have been obvious to combine Tracy with Gorsuch for the benefit of using under utilized capacity to obtain the invention as specified in claims 11, 12, 28, and 29.

18. Claims **9, 10, 26,** and **27** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,081,536 to Gorsuch in view of U.S. Patent 6,400,701 to Lin, et al.

Gorsuch discloses the limitations of claims 1 and 19 as stated in the rejection above. Gorsuch does not disclose expressly the limitations of claims 9, 10, 26, and 27 of detecting that more capacity if unavailable, reallocating the existing capacity and allocating the requested capacity at a later time.

Lin discloses the limitations of claims 9, 10, 26, and 27 in figure 12 and from column 17, line 56 to column 18, line 14. Specifically, the limitation of claims 9 and 26 of detecting that additional capacity is unavailable is anticipated by the air side resource manager 1110 requesting reallocation of the shared channel. According to Lin, this occurs "usually when no more spare air side time slots are available for the circuit switched traffic". The limitation of claims 9 and 26 of reallocating the existing capacity is anticipated by suspending the transmission on the logical channel (lines 11-12 of column 18). The allocating of the requested capacity when capacity is available is anticipated by resuming use of the suspended timeslots (lines 12-14 of column 18).

Additionally, the limitation of claims 10 and 27 of allocating capacity to transparent traffic first is anticipated to the extent that circuit switched traffic in Lin has the same characteristics as the transparent traffic in the present application and the

packet switched traffic in Lin has the same characteristics as the non-transparent traffic in the present invention. The circuit switched traffic discussed in Lin is delay sensitive as noted in column 3, lines 56-60. By suspending the transmission of packet switched traffic on the logical channel to allow circuit switched traffic to use the capacity, Lin is disclosing the same concepts specified in claims 10 and 27.

Gorsuch and Lin are analogous art because they are from the same field of endeavor of sharing limited communication capacity.

At the time of the invention, it would have been obvious to a person skilled in the art to use the concept of reallocating channel capacity when no additional capacity is available to modify Gorsuch to obtain the invention as specified in claims 9 and 26.

The motivation for doing so would have been to give priority to the circuit switched traffic (or the transparent traffic) in order to maintain a certain quality of service. Lin suggests this in lines 51-63 of column 9.

Therefore, it would have been obvious to combine Lin with Gorsuch for the benefit of prioritizing circuit switched traffic to obtain the invention as specified in claims 9, 10, 26, and 27.

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,477,176 to Hamalainen, et al is relevant as it describes a way of simultaneously sharing a common traffic channel in a mobile communications system between multiple calls. U.S. Patent 5,583,869 to Grube, et al is relevant as it discloses a means for dynamically allocating more or less capacity to a

user in a wireless communication system to handle simultaneous transmissions of data from multiple applications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 703-605-4774. The examiner can normally be reached on 6:30-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

RCS.

Robert C. Scheibel
Examiner
Art Unit 2666
October 2, 2003

Seema S. Rao

SEEMA S. RAO 10/16/03
SUPERVISORY PATENT EXAMINER
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